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The Importance of Strategic Fit in Knowledge Management

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THE IMPORTANCE OF STRATEGIC FIT IN KNOWLEDGE MANAGEMENT

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ABSTRACT

Whilst a great deal of academic research and many methods used by consultants and practitioners in knowledge management have focused on developing successful strategies, few have reviewed strategic-fit. This project aims to fill this gap. A survey of over 150 organisations discovers distinct variations in the knowledge orientation of organisations with different strategic approaches. These findings support the notion that in order to achieve a more effective KM strategy it is important to match this closely to the strategic needs of the organisation. One size does not fit all.

The study identifies a number of success factors for each of four strategic types of organisation and describes how these are correlated with overall performance. The focus is on adaptability to changes in the external environment and more generally on business agility.

1. INTRODUCTION

One of the issues of importance raised by members of the Henley Knowledge Management Forum when it was launched in June 2000 was that of knowledge management (KM) strategy. A working group co-championed by the authors was set up and started deliberations on the topic at the second Forum meeting in October. The main aim of the project was to generally examine the nature of different organisations' KM strategies and to examine whether firms of different strategic direction varied in their approach to KM. The objectives of the project were set out as follows:

- Identify different types of KM strategy pursued by organisations
- Develop a working model of KM strategy and organisational type
- Identify which strategies are more successful and how these differ across different types of organisation

In summary, the project was testing whether a 'one size fits all' approach is appropriate in knowledge management, and if not what might be the relevant factors that should be taken into account when developing a KM strategy.

2. BACKGROUND

Over the last couple of decades many scholars, consultants and practitioners have developed frameworks that attempted to find the elusive link between information systems and business strategy (Marchand *et al.*, 2000). A major milestone in this field was the creation of a model for strategic alignment developed by MacDonald et al. as part of MIT's 'Management in the 1990s' research framework (Scott Morton, 1991). The model brought together the elements of business strategy, IT strategy, information systems infrastructure and process, and organisational infrastructure and process (including organisational change processes and HR issues). Much subsequent research has followed in this direction. It is the recent study by Marchand et al. (2001) that is one of the first to discover evidence for a link between information orientation and business performance. One of the major findings of this study is that demonstration of a significant link to performance requires a holistic approach, which considers all the factors of IT practices, information management practices, and information behaviour/values. The Forum's study was carried out in parallel and did not have the benefit of these findings as they have been published subsequently. Whilst the research approaches are essentially similar, the studies are complementary in that only the Henley study (reported here) has included the element of strategic orientation.

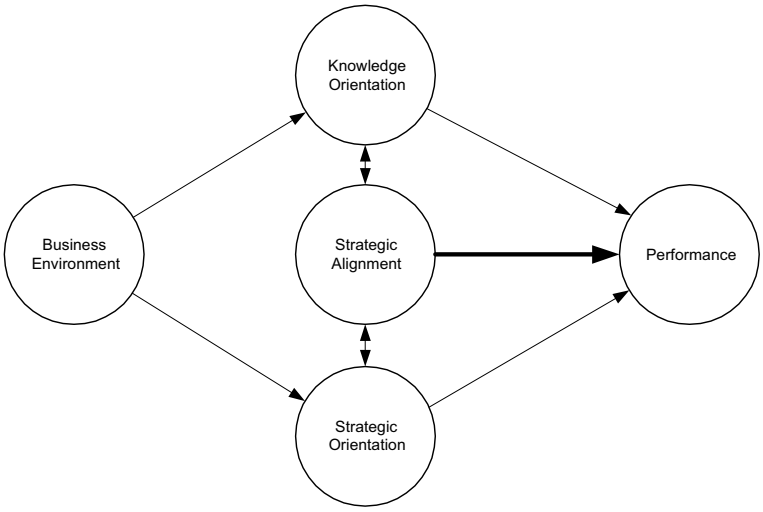
3. APPROACH

The research method adopted is mainly quantitative with primary data collected through a questionnaire-based survey. The overall approach is exploratory and seeks to discover new relationships and models. Supplementary qualitative data was collected through a series of focus group meetings involving the project working group and structured interviews with other practitioners.

A literature review of current models in this area revealed the need to build a new model for strategic-alignment that suited a quantitative approach, as most of the previous studies were primarily qualitative. The elements of strategic orientation, environmental turbulence and business performance were taken from established and validated models (described in following sections). As no model could be found for knowledge orientation this was developed by the working group and based on a mix of KM dimensions already identified in the literature and the practical experience of the group. This resulted in the development of a 49-item survey instrument for measuring knowledge orientation (see appendix).

3.1 Research Model

The main elements of the survey are represented in the model below (figure 1). Each element is described in more detail in the subsequent sections.



4. KNOWLEDGE ORIENTATION

4.1 Identifying a KM Strategy

A review of the literature, confirmed by the experiences of the working group, indicated that that few organisations have explicit KM strategies. In many organisations, the KM strategy formation process tends to be emergent rather than the subject of formal long-term planning. This is in line with recent trends in business strategy formation with a shift in emphasis from highly prescriptive models to those that emerge as a result of a flexible approach driven by organisational learning. Mintzberg (1999) identifies as many as ten different schools of strategy formation and concludes that dealing with all the complexity of the different approaches to strategy formation in one process may seem overwhelming. After all, strategy formation involves judgemental designing, intuitive visioning, and emergent learning.

A further problem in examining the effectiveness of any strategy is the dependence of the outcome on the manner in which the strategy has been implemented. No matter how brilliant or well aligned a strategy may be, it will still be unlikely to lead to a successful outcome if it has been poorly implemented.

For these reasons, the emphasis of this project shifted away from looking purely at KM strategy, which in effect is a statement of intended actions and expected results at some point in the future. Instead the working group chose to look at current knowledge practices and management. This was defined as the knowledge orientation of the organisation.

4.2 Developing a KM Profile

At the second Forum meeting a focus group of ten people from different organisations reviewed the key dimensions of knowledge management. Through a brainstorming session without any prior input 12 key dimensions were identified. These are listed in the left-hand column of figures 2 and 3 below. This was followed by each participant benchmarking his or her own organisation against these criteria. It was clear from the broad range of results that the participating organisations varied considerably on each of the dimensions. Two examples are shown below in figures 2 and 3.

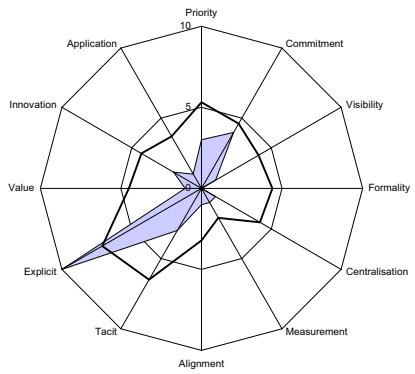
KM Dimensions	Organisation B
Priority given to knowledge management by top management Senior management **commitment** **Visibility** of commitment to knowledge management **Formality** of KM strategy Degree of **centralisation** **Measurement** processes in place **Alignment** of KM, culture, business systems and incentives	

Figure 1: Organisation B - KM Profile

Emphasis on **tacit** knowledge

Emphasis on **explicit** knowledge

Creating new knowledge-based **value** for the organization

Link between **innovation** and KM

Effectiveness of **application** of knowledge in the organization

The single line profile around the centre of both figures represents the mean for the whole group

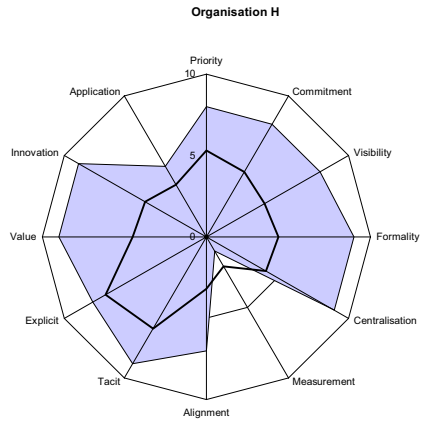


Figure 2: Organisation H - KM Profile

This analysis provided an early indication of some of the main dimensions of knowledge orientation. Whilst some differences may be explained by the maturity of a firm in KM terms, others might be due to different organisational objectives and needs. Members agreed that many of these dimensions highlighted important issues and decisions areas for management. Another important observation of the group was that achieving the highest possible score on each dimension was not a relevant objective. Each organisation needed to develop what for it would be an optimal profile, which might score high on some dimensions and low on others. However, a ready model for this was not available and it was decided that the research of this group would be directed towards examining these issues.

5. BUSINESS STRATEGY

In order to review how knowledge orientation varies between organisations of different strategic type it was necessary to find a quantitative instrument that enabled the categorisation of respondents to the survey. Following a review of several models of business strategy a survey instrument developed by Conant and Mokwa (1990) was chosen. Based on a typology developed by Miles and Snow (1978) the instrument provides a validated and reliable tool for categorising organisations according to their strategic orientations.

Miles and Snow proposed a relatively complex strategic typology interrelating organisational strategy, structure and process variables within a theoretical framework of co-alignment. They viewed the 'adaptive cycle' characterising this process as involving three imperative strategic 'problem and solution' sets:

(i) an entrepreneurial problem set centring on the definition of an organisation's product-market domain;
(ii) an engineering problem set focusing on the choice of technologies and processes to be used for production and distribution; and
(iii) an administrative problem set involving the selection, rationalisation and development of organisational structure and policy processes

In their research across different sectors, both public and private, Miles and Snow found that the organisations they studied fell into one of four strategic type categories, which they defined as follows:

1. **Defenders** are organisations that have narrow product-market domains. Top managers in this type of organisation are highly expert in their organisation's limited area of operation but do not tend to search outside of their domains for new opportunities. As a result of this narrow focus, these organisations seldom need to make major adjustments in their technology, structure, or methods of operation. Instead they devote primary attention to improving efficiency of their existing operations.
2. **Prospectors** are organisations that almost continually search for market opportunities, and they regularly experiment with potential responses to emerging environmental trends. Thus, these organisations often are the creators of change and uncertainty to which their competitors must respond. However, because of their strong concern for product and market innovation, these organisations usually are not completely efficient.
3. **Analysers** are organisations that operate in two types of product-market domains, one relatively stable, the other changing. In their stable areas, these organisations operate routinely and efficiently through use of formalised structures and processes. In their more turbulent areas, top managers watch their competitors closely for new ideas, and then they rapidly adopt those that appear to be the most promising.
4. **Reactors** are organisations in which top managers frequently perceive change and uncertainty occurring in their organisational environments but are unable to respond effectively. Because this type of organisation lacks a consistent strategy-structure relationship, it seldom makes adjustment of any sort until forced to do so by environmental pressures.

The Defender and Prospector are at opposite ends of the adaptive scale, whilst the Analyser shares characteristics with both these types and is a form of hybrid. The Reactor is a residual type that does not display a fixed pattern of behaviour, rather responding when it is forced to do so.

Miles and Snow found that all four types tend to exist in any single industry and that Prospectors, Analysers and Defenders tend to perform equally well, whilst the Reactors' performance is comparatively inferior.

6. BUSINESS ENVIRONMENT

As the Miles and Snow model essentially is based on the behavioural patterns of an organisation when it responds or adapts to changes in the business environment, a measure of the business environment was incorporated in the research model. A scale developed by Ansoff and Sullivan (1993) was adopted as it has been used in a number of studies that have reported reliable results.

Ansoff (1965) defines the degree of changeability of environmental challenges as the level of *environmental turbulence.*

The latter is determined by a combination of numerous factors, which include:

- Changeability of the market environment
- Speed of change
- Intensity of competition
- Fertility of technology
- Discrimination by customers
- Pressures from governments and influence groups

The more turbulent the environment the more aggressive must be the firm's response, but common experience shows that some firms take full advantage of the opportunities offered by turbulence and others lag behind.

Ansoff and Sullivan developed a strategic-success-formula (SSF) that is based on the thesis that to optimise a firm's performance, management must align the firm's strategies and capabilities with the state, or turbulence level of the environment. Their model includes 5 levels of environmental turbulence:

1. **repetitive**: no change;
2. **expanding**: slow incremental change;
3. **changing**: fast incremental change;
4. **discontinuous**: discontinuous predictable change; and
5. **surpriseful**: discontinuous unpredictable change.

This measure of environmental turbulence was included in the questionnaire as a single-item.

7. MEASURING PERFORMANCE

Assessing the performance of multi-industry firms is difficult because profitability can be influenced by industry specific factors and methods of allocation of revenues and costs across subsidiary business units may vary. Previous studies have shown that subjective assessments by senior managers can be used to provide reliable measures of performance, and that these correlate well with objective measures where they are available (Dess *et al.*, 1984; Pearce *et al.*, 1987). The following performance measures (comparative to competitors) were used in the questionnaire:

- Overall performance in the last year
- Return on investment over the last three years
- Growth in volume of sales in the last three years

8. SURVEY

In a series of focus group meetings including academics and practitioners the concept and dimensions of knowledge orientation were explored using brainstorming techniques to identify factors that are most likely to vary across organisations of different strategic orientation. In combination with a thorough literature review, 49 dimensions were identified and developed into measures for the questionnaire (see Appendix).

After piloting the draft questionnaire and making some minor amendments the survey was sent out via several channels. These included a printed version distributed with the Knowledge Management magazine (Biz Media), an Internet-based version through the Henley Management College website, an electronic version via the Gurteen newsletter and by direct email to Henley alumni. 180 responses were received. Of these, 70% came from respondents in the UK, and 21% from other parts of Europe. These covered a range of sectors including financial services, professional services, telecom, education and IT products and services. 20 responses came from the public sector.

9. FINDINGS

9.1 One size does not fit all

Analysis of the survey results clearly shows that knowledge orientation varies significantly with the strategic orientation of organisations. Of the 49 dimensions of knowledge orientation that were measured 33 proved to vary significantly (28 at 99% confidence level and 5 at 95% confidence level). The results for the dimensions that vary at the 99% level of confidence are set out in table 1 below. The right-hand column indicates the significant differences in more detail. The figures shown under each of the strategic types – Prospector, Analyser, Defender and Reactor – represent the mean of the knowledge orientation measure for each strategic group. Scores are on a scale of 1-7.

Ref	Knowledge Orientation Dimension (Questionnaire Item)	Prospector	Analyser	Defender	Reactor	Significant Differences (99% conf. Level)
28	Our training relies on documentation and manuals	2.59	3.71	4.51	3.71	R>P, D>P, A>P
29	People joining our company are good at problem solving in unclear situations	5.08	4.75	3.93	3.67	P>D, P>R, A>R
31	Our remuneration systems encourage direct sharing of knowledge with others	3.92	3.18	2.58	2.25	P>D, P>R
32	Secondments to and from our company are used to foster people networks	3.94	3.38	2.78	3.00	P>D
33	Our HR policies and systems are aligned with the knowledge needs of our organisation	4.02	3.29	2.95	2.67	P>D, P>R
36	We use leading edge information and communications technologies (ICT)	5.25	4.31	3.93	3.83	P>A, P>D, P>R
37	Our information systems provide comprehensive performance measures for our company	4.10	3.58	3.07	3.08	P>D, P>R
38	We can generally access the information that we need without having to refer to the person who created it	4.60	3.67	3.71	3.58	P>A
39	We can find the documents that we need very fast with a simple search in our electronic databases	4.48	3.24	3.37	2.75	P>A, P>D, P>R
42	Once we have developed new knowledge we re-use it as many times as possible in our product/services	4.78	4.29	3.63	3.42	P>D, P>R
43	The product/services that we provide always involve bringing together experts with relevant knowledge and experience	5.69	5.53	4.71	4.21	P>D, P>R, A>D, A>R
44	Detailed knowledge of our customers is treated as a priority and is continuously updated	5.08	4.87	4.10	3.54	P>D, P>R, A>R
45	Detailed knowledge of our competitors is treated as a priority and is continuously updated	4.40	4.32	3.53	3.25	P>D, P>R, A>R
46	Detailed knowledge of our industry or sector is treated as a high priority and is continuously updated	5.12	4.78	4.15	4.04	P>D, P>R
54	The knowledge that our company relies on requires rapid and continuous refresh	5.62	5.02	4.56	4.96	P>D
55	We are effective at acquiring and/or creating new knowledge assets	4.69	4.11	3.59	3.33	P>D, P>R
56	We are very effective at exploiting our knowledge assets, e.g. by utilising them ourselves, selling or disseminating them to others	4.56	3.60	3.24	2.96	P>A, P>D, P>R
57	The knowledge that we acquire or create is closely related to the knowledge that we use in our main activities or sell on to others	5.31	4.42	4.68	4.13	P>A, P>R
61	Our information systems provide access to documents generated anywhere in the organisation	4.66	4.14	3.12	2.92	P>D, P>R
62	Most of the knowledge in our company flows horizontally across the organisation at all levels	4.62	3.64	3.17	3.50	P>A, P>D, P>R
65	Our company operates mainly through set procedures and people are discouraged from deviating from these	3.08	4.13	4.93	4.17	P>A, P>D, P>R
67	Project teams operate horizontally across the company	5.38	4.73	4.33	3.75	P>D, P>R
68	People in the company normally respond rapidly to requests for information from colleagues	5.25	4.93	4.44	4.13	P>D, P>R
69	Our knowledge management practices are aligned with the overall objectives of the company	4.61	4.16	3.49	3.08	P>D, P>R
72	Information about failures, errors, and mistakes is shared and addressed constructively	3.83	3.53	2.75	2.63	P>D, P>R
73	We are generally allowed time to reflect on completed tasks and projects, and to share our experiences with our colleagues	3.62	3.42	2.71	2.43	P>R

Ref	Knowledge Orientation Dimension (Questionnaire Item)	Prospector	Analyser	Defender	Reactor	Significant Differences (99% conf. Level)
75	Our knowledge systems are focused on internal aspects of our company	3.48	4.40	4.43	4.00	P>A, P>D
76	In comparison to our competitors we spend more on research and development	4.86	3.98	3.71	3.23	P>A, P>D, P>R

Table 1: Variances in Knowledge Orientation

Some of these dimensions are examined in more detail in the following sections.

10. APPROACH TO TRAINING

Items 28 and 30 examine contrasting approaches to training. These are shown graphically in figures 4 and 5 below:

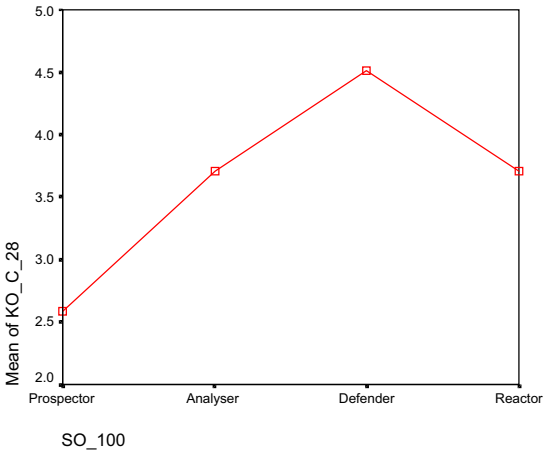


Figure 4: Training (document-based)

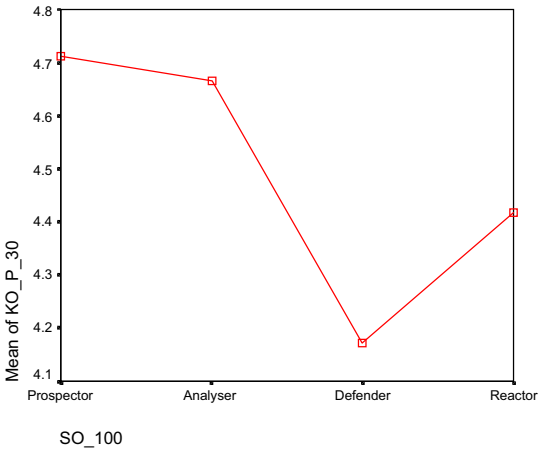


Figure 5: Training (people-based)

Figure 4 relates to training that relies on documentation and manuals (explicit or codified knowledge). Defenders score highest on this measure as might be expected from an organisation focused on internal efficiency.

On the other hand, figure 5 relates to the reliance of training on knowledge transfer through coaching and mentoring (tacit or personalised knowledge). Whilst there are marked differences between the strategic groups, they are less significant in statistical terms than those for document-based training and therefore are not included in table 1. Prospectors and analysers make more use of people-to-people training.

Both these findings are consistent with the model of KM strategy developed by Hansen and Nohria (1999), whose model defines the following two strategies:

- Codification: people-to-documents (explicit knowledge)
- Personalisation: people-to-people (tacit knowledge)

11. APPLICATION OF TECHNOLOGY

Figures 6 and 7 below describe, respectively, the main application of information and communications technologies (ICT) to accessing documents and contacting people.

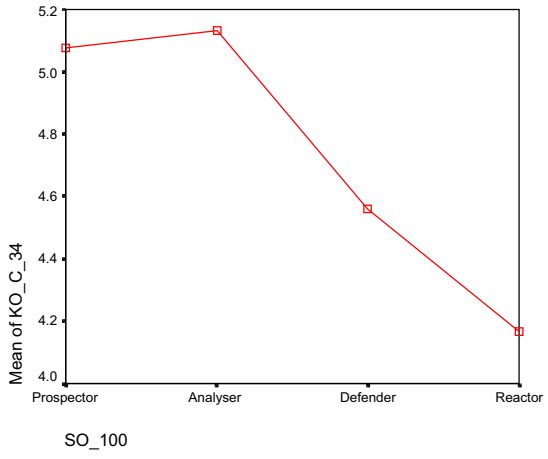


Figure 6: ICT for accessing documents

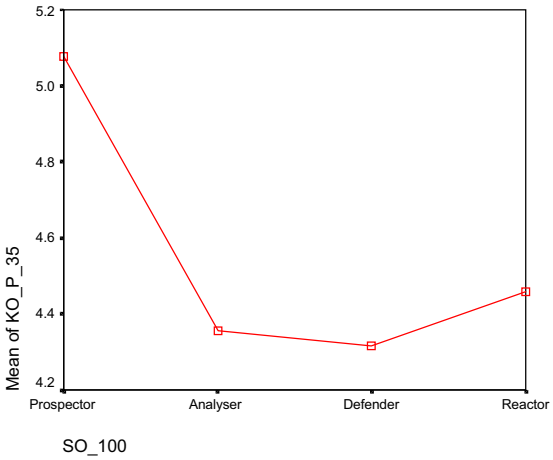


Figure 7: ICT to contact people

Although these variations are less significant (closer to 90%) they are still worthy of comment. Prospectors are higher than the other 3 types on the focus of ICT on connecting people. It appears that only prospectors have high scores on both counts.

12. REMUNERATION SYSTEMS

The linkage of remuneration systems encouraging direct sharing of knowledge varies considerably, as shown in figure 8 below. Prospectors are significantly higher than Defenders and Reactors.

13. RE-USE OF KNOWLEDGE

A perhaps surprising result, as shown in figure 9 is that Prospectors have the highest score for re-use of knowledge. Hansen and Nohria's model would suggest that Defenders should have the highest score as they are more efficiency-focused.

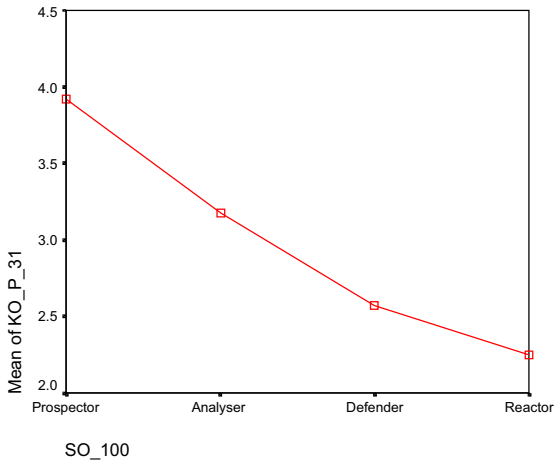


Figure 8: Remuneration and Knowledge Sharing

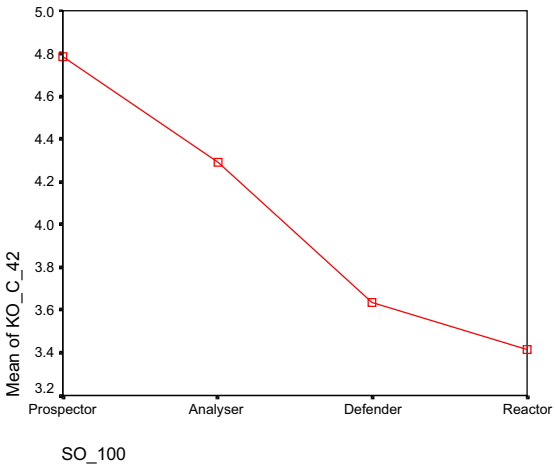


Figure 9: Re-use of Knowledge in Products/Services

The analysis presented here is by no means comprehensive, but is indicative of some of the relationships that have been established for the 49-dimensions of knowledge orientation.

13.1 Performance is related to Knowledge Orientation

By dividing up the response sample by strategic type it was found that there are significant correlations between a number of the knowledge orientation dimensions and overall performance. These are set out in the table 2 below:

Ref	Knowledge Orientation Dimension (Questionnaire Item)	Prospector	Analyser	Defender	Reactor
29	People joining our company are good at problem solving in unclear situations				XX
30	Our training relies on knowledge transfer through coaching or mentoring	X			
37	Our information systems provide comprehensive performance measures for our company		XX		
39	We can find the documents that we need very fast with a simple search in our electronic databases	X			
43	The product/services that we provide always involve bringing together experts with relevant knowledge and experience	X		X	
44	Detailed knowledge of our customers is treated as a priority and is continuously updated			X	
45	Detailed knowledge of our competitors is treated as a priority and is continuously updated			XX	
46	Detailed knowledge of our industry or sector is treated as a high priority and is continuously updated			XX	
49	We have comprehensive and up-to-date shared directories of experts which provide information about their experience and current work	XX		X	
53	We are generally expected to seek out for ourselves the information and know-how that we need to carry out our jobs effectively		X (R)		
55	We are effective at acquiring and/or creating new knowledge assets		X	X	
56	We are very effective at exploiting our knowledge assets, e.g. by utilising them ourselves, selling or disseminating them to others		XX		
58	We are frequently short of up-to-date information that is needed to carry our work effectively			XX (R)	
65	Our company operates mainly through set procedures and people are discouraged from deviating from these			XX	
67	Project teams operate horizontally across the company			X	
68	People in the company normally respond rapidly to requests for information from colleagues		XX	X	XX
69	Our knowledge management practices are aligned with the overall objectives of the company	X	X		X
70	Knowledge management in our company is coordinated centrally from the top	X			
72	Information about failures, errors, and mistakes is shared and addressed constructively		XX		
73	We are generally allowed time to reflect on completed tasks and projects, and to share our experiences with our colleagues		XX		
76	In comparison to our competitors we spend more on research and development		XX	XX	X

X – significant at 95% confidence level; XX – significant at 99% confidence level
(R) – Reversed, i.e. negative correlation

Table 2: Correlations between Knowledge Orientation and Performance

Three of the above dimensions are common to three of the strategic types:

- KM practices are aligned with objectives (P,A,R)
- People respond rapidly to requests for information – collaboration (A,D,R)
- Higher spend on R & D (A,D,R)

For each strategic type the knowledge orientation dimensions with crosses against them (in table 2) represent success factors. This means that the organisations within each group that perform better also have higher scores on these dimensions.

13.2 Success Factors

Further analysis of the above success factors is summarised in table 3.

	Prospector	Analyser	Defender	Reactor
Knowledge assets	Speed of access	Balanced acquisition and exploitation	Knowledge acquisition	R&D spend
Working practices	Empowered individuals	Collaborative culture	Communities based	Problem solving culture
Organisation	Centralised and strategically aligned	Performance measurement	Broad-based project teams	KM Alignment

Table 3: Knowledge-based Success Factors

13.3 Knowledge Management Characteristics

Analysis of the above results and their interpretation through further focus group meetings has yielded the following knowledge management profiles for each of the strategic types:

Prospector

Successful Prospectors focus on empowering individuals to help the organisation address new opportunities and take it into the future. They focus on coaching and mentoring individuals, putting them in touch with each other through expert directories and creating networks of experts who share tacit knowledge.

Without an over-emphasis on capturing explicit knowledge, they provide fast access to documents.

Agility is a key aspect for the fast-moving prospector and this is achieved through the above, plus centralisation of knowledge management and alignment of KM practices with business strategy.

Analyser

Successful Analysers have a balanced approach to both acquiring and exploiting knowledge – both tacit and explicit.

Their working practices allow for 'people time' (for reflection), they have a positive approach to failure and learning from mistakes, and supporting people in responding quickly to requests for information and helping them find information.

They have an even balance between acquiring and exploiting knowledge, and invest heavily in R&D (like Defenders). This indicates a more mature approach to knowledge management where the benefits of both acquisition and exploitation are understood.

As one might expect for a balanced organisation, analysers have a focus on measuring performance and ensuring KM strategy is aligned with the business strategy.

Defender

Successful Defenders draw information and knowledge from a broad range of sources to enable them to provide secure and solid foundations for their business. Customer, competitor and industry knowledge combined with heavy R&D spend and a focus on acquiring knowledge means there is a major emphasis on knowledge gathering.

This must raise questions around the Defender's ability to exploit all this knowledge successfully.

Like Prospectors, Defenders share directories of experts and create networks of experts. Combining this with the above indicates that they are good 'processors' of knowledge, enabling them to use knowledge effectively within the boundaries of the formal processes of the organisation.

Organisationally, they work across the organisation through horizontal project teams, but within the operation of set procedures. There is a negative correlation between success and going beyond set procedures among defenders.

Reactor

Reactors demonstrate less success factors than any other group. Successful Reactors focus on the inherent abilities of employees to solve problems and quickly respond to requests for information. Consequently, this shows a lack of focus on collaboration and a more centralised approach, as other success factors include high levels of investment in R&D and strategic alignment of knowledge management with organisational objectives. As expected, this would allow them to respond quickly to environmental changes.

14. IMPLICATIONS FOR BUSINESS

The results of this study indicate that knowledge orientation varies significantly across organisations of different strategic orientation. Different success factors apply to each strategic type (see table 2) and these may be of relevance in developing an effective knowledge management strategy.

This may be operationalised by reviewing the knowledge and strategic orientations of the organisation and assessing how closely they are aligned based upon the factors outlined in this paper. The research indicates that up to a third of organisational performance may be impacted by correctly aligning knowledge orientation with strategic orientation, so the potential benefits of reviewing these areas and improving the alignment could result in significant performance improvements.

In building tomorrow's agile business, which is more resilient to continuous changes in its operating environment, it is important to achieve a strategic-fit between the KM systems and practices and the organisational objectives they serve. This is a vital element in terms of obtaining better value from investment in these areas. The findings of this research should help in building the business case for KM and making better-informed decisions.

15. FURTHER RESEARCH

The data gathered in this survey requires further interpretation and explanation through more interviews and focus group sessions.

The survey instrument for measuring knowledge orientation may be simplified by further factor analysis and interpretation of the 49-item questionnaire and reducing it to only significant measures.

The results will also be integrated with the KM framework project, which was conducted at the same time within the Henley KM Forum. Both studies are complementary in nature and jointly should add to the understanding of the how organisations approach and succeed in knowledge management.

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APPENDIX: KNOWLEDGE ORIENTATION SURVEY INSTRUMENT

The 49-item survey instrument for measuring knowledge orientation, which was developed for this study, is set out below. Each item was measured on a 7-point Likert scale from 'strongly disagree' to 'strongly agree'. The reference numbers relate to the item number in the overall questionnaire.

Ref.	Questionnaire Item
28	Our training relies on documentation and manuals
29	People joining our company are good at problem solving in unclear situations
30	Our training relies on knowledge transfer through coaching or mentoring
31	Our remuneration systems encourage direct sharing of knowledge with others
32	Secondments to and from our company are used to foster people networks
33	Our HR policies and systems are aligned with the knowledge needs of our organisation
34	We mainly use our information and communications technologies (ICT) to access to documents and data
35	We mainly use our information and communications technologies (ICT) to contact people and to exchange knowledge
36	We use leading edge information and communications technologies (ICT)
37	Our information systems provide comprehensive performance measures for our company
38	We can generally access the information that we need without having to refer to the person who created it
39	We can find the documents that we need very fast with a simple search in our electronic databases

Ref.	Questionnaire Item
53	We are generally expected to seek out for ourselves the information and know-how that we need to carry out our jobs effectively
54	The knowledge that our company relies on requires rapid and continuous refresh
55	We are effective at acquiring and/or creating new knowledge assets
56	We are very effective at exploiting our knowledge assets, e.g. by utilising them ourselves, selling or disseminating them to others
57	The knowledge that we acquire or create is closely related to the knowledge that we use in our main activities or sell on to others
58	We are frequently short of up-to-date information that is needed to carry our work effectively
59	Our knowledge systems are focused on issues external to our company
60	Knowledge is our primary product/service
61	Our information systems provide access to documents generated anywhere in the organisation
62	Most of the knowledge in our company flows horizontally across the organisation at all levels
63	Management places emphasis on capturing knowledge in documents and storing them in electronic databases for later reuse
64	Management places emphasis on identifying and supporting networks of experts and people with similar job-related interests

40	A high proportion of the knowledge in our company resides within individuals
41	A high proportion of our internal knowledge-sharing is achieved through direct people-to-people contact
42	Once we have developed new knowledge we re-use it as many times as possible in our product/services
43	The product/services that we provide always involve bringing together experts with relevant knowledge and experience
44	Detailed knowledge of our customers is treated as a priority and is continuously updated
45	Detailed knowledge of our competitors is treated as a priority and is continuously updated
46	Detailed knowledge of our industry or sector is treated as a high priority and is continuously updated
47	Our remuneration systems encourage using and contributing to document databases
48	People joining our company are well suited to effectively implementing standard solutions
49	We have comprehensive and up-to-date shared directories of experts which provide information about their experience and current work
50	Innovation in our company relies heavily on dialogues between people with relevant knowledge
51	Prior to leaving our company people are debriefed to ensure that their knowledge is transferred to other people within the company
52	Accuracy of information is important to us, even though it may take longer to achieve

65	Our company operates mainly through set procedures and people are discouraged from deviating from these
66	We have dedicated staff for capturing knowledge around the organisation and storing it in readily accessible documents and databases
67	Project teams operate horizontally across the company
68	People in the company normally respond rapidly to requests for information from colleagues
69	Our knowledge management practices are aligned with the overall objectives of the company
70	Knowledge management in our company is coordinated centrally from the top
71	Everyone in the company is expected to follow knowledge management procedures that are formally laid down in documents
72	Information about failures, errors, and mistakes is shared and addressed constructively
73	We are generally allowed time to reflect on completed tasks and projects, and to share our experiences with our colleagues
74	Most knowledge in our company flows vertically from subordinate to superior and vice versa
75	Our knowledge systems are focused on internal aspects of our company
76	In comparison to our competitors we spend more on research and development